

# California Environmental Protection Agency

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## California Regional Water Quality Control Board San Francisco Bay Region

and

## California Office of Environmental Health Hazard Assessment

### **FOR IMMEDIATE RELEASE**

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### **Reservoir Study Shows Elevated Levels of Mercury, PCBs in Fish**

The San Francisco Bay Regional Water Quality Control Board released a study today that found elevated levels of mercury, polychlorinated biphenyls (PCBs) and other contaminants in several species of fish from ten reservoirs in Alameda, Contra Costa, Marin, and Santa Clara counties. The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) has helped health officials from the four counties to develop interim advisories that recommend limits on the consumption of certain fish from the reservoirs.

"Although these chemicals have been found in fish in some of our drinking water reservoirs, the chemicals do not concentrate in the water," said Bruce Wolfe, the Water Board's executive officer. "Bay Area drinking water supplies are monitored regularly, and treated water supplied from these reservoirs is safe for drinking and other domestic uses."

"Fish are part of a healthy, balanced diet," said OEHHA Director Dr. Joan Denton. "However, the public – and especially women of childbearing age and children – should be aware of contaminants in fish from these reservoirs and limit their consumption as recommended in the advisories."

The draft Water Board report containing the results of the fish sampling is available at [www.swrcb.ca.gov/rwqcb2/](http://www.swrcb.ca.gov/rwqcb2/). The interim advisories containing recommended consumption guidelines from the four counties and OEHHA are available at [www.oehha.ca.gov/fish/so\\_cal/bayareares.html](http://www.oehha.ca.gov/fish/so_cal/bayareares.html).

Through the statewide Surface Water Ambient Monitoring Program (SWAMP), fish were caught in Del Valle, Shadow Cliffs, and Chabot reservoirs in Alameda County, San Pablo and Lafayette reservoirs in Contra Costa County, Soulajule, Nicasio, and Bon Tempe reservoirs in Marin County, and Anderson and Stevens Creek reservoirs in Santa Clara County.

Results show that some fish from each of the reservoirs that were tested exceeded human health guidelines for mercury. Largemouth bass had the highest mercury concentrations and in most cases were twice as high as any other fish caught. Carp and channel catfish had the highest concentrations of PCBs and pesticides.

Fish from Soulagule, Anderson and Stevens Creek reservoirs had the highest concentrations of mercury, while fish from Chabot and San Pablo reservoirs had the highest concentrations of PCBs and pesticides. Mercury and PCBs in the fish pose the most significant health risks. The interim advisories were developed to ensure protection from those two contaminants, and will provide protection from other contaminants in the fish as well.

The interim advisories for the 10 reservoirs contain a variety of recommended consumption limits, ranging from no consumption of carp from Lake Chabot to 12 meals a month for rainbow trout in San Pablo Reservoir and black crappie in Lafayette Reservoir. There is one set of guidelines for women of childbearing age and children age 17 and under, due to their sensitivity to methylmercury (the most prevalent and toxic form of mercury in fish), and a second set of guidelines for women beyond their childbearing years and men. The interim advisories are contained in the attached table.

All reservoirs used for drinking water are regularly monitored to verify that the water is safe to drink. Chemical contaminants found in this study do not concentrate in the water as they do in fish. These chemicals accumulate over long periods of time in the sediment and enter organisms that live in the sediment. Fish take in the contaminants when they eat these organisms. The contaminants can accumulate in fish to concentrations many thousands of times greater than in the surrounding water.

Mercury is a metal that occurs naturally in the California Coast Ranges, where it was mined in the past for use in gold-mining operations. Mercury from natural weathering, mining waste and coal-burning power plants are important sources of mercury that can accumulate in lake sediments. Bacteria in the sediment convert this inorganic mercury to the more toxic methylmercury, which then enters the food chain.

Women can pass methylmercury on to their fetuses through the placenta, and to infants through breast milk. Excessive exposure to methylmercury may affect the nervous system in children, leading to subtle decreases in learning ability, language skills, attention and/or memory. These effects may occur through adolescence as the nervous system continues to develop. In adults, the most subtle symptoms clearly associated with methylmercury toxicity are numbness or tingling sensations in the hands and feet or around the mouth.

PCBs are mixtures of chemicals that were manufactured for electrical insulation and other industrial uses. Because PCBs persist in the environment for long periods of time, their manufacture was banned in 1977. They are common contaminants in urban environments where runoff can carry them into water bodies, where they accumulate in the sediment. PCBs can also harm the developing fetus, damage the immune system and other body functions in adults, and could increase the long-term risk of cancer.

The water board plans to conduct additional sampling of fish in the reservoirs. OEHHA will perform a thorough scientific assessment of the water board data and will develop a final set of consumption guidelines based on its assessment. The public should follow the interim guidelines until the final guidelines are completed.

The four counties will make the interim advice available at the reservoirs in their jurisdictions. Contacts for the four county health offices and other local agencies are:

Alameda County

Alameda County Public Health Department: Sherri Willis, 510-267-8001  
East Bay Regional Park District: Shelly Lewis, 510-635-0135

Contra Costa County

Contra Costa Health Services: Michael Kent, 925-313-6587

Marin County

Marin County Department of Health and Human Services: Fred Schwartz, M.D., 415-499-6841  
Marin Municipal Water District: Libby Pischel, 415-945-1421

Santa Clara County

Santa Clara County Public Health Department: Molly Carbajal, 408-494-7825.

## INTERIM HEALTH ADVISORIES

*If you eat the recommended maximum amount of fish from one reservoir, do not eat any other fish during the same month.*

County	Reservoir and Fish Species	Women of childbearing age and children (17 years and younger) (meals per month*)	Women beyond childbearing years and men (meals per month*)
Alameda	<b>Del Valle Reservoir</b>		
	Largemouth bass OR	1	1
	Channel catfish OR	1	4
	Bluegill OR	4	12
	Redear Sunfish	4	12
	<b>Lake Chabot</b>		
	Carp OR	0	0
	Largemouth bass OR	1	4
	Channel catfish OR	4	4
	Redear Sunfish	4	12
	<b>Shadow Cliffs Reservoir</b>		
	Carp OR	1	1
	Largemouth bass OR	1	4
	Channel catfish	4	4
Contra Costa	<b>San Pablo Reservoir</b>		
	Channel catfish OR	1	1
	Carp OR	1	1
	Largemouth bass OR	1	4
	Black crappie OR	4	12
	Rainbow trout	12	12
	<b>Lafayette Reservoir</b>		
	Largemouth bass OR	1	4
	Goldfish OR	1	4
	Channel catfish OR	4	4
	Black crappie	12	12
Santa Clara	<b>Stevens Creek Reservoir</b>		
	Largemouth bass OR	0	1
	Channel catfish OR	1	1
	Black crappie	1	4
	<b>Anderson Reservoir</b>		
	Largemouth bass OR	0	1
	Carp OR	1	4
	Black crappie	1	4
Marin	<b>Soulajule Reservoir</b>		
	Largemouth bass OR	1	1
	Black crappie OR	1	4
	Channel catfish	1	4
	<b>Nicasio Reservoir</b>		
	Largemouth bass OR	1	4
	Carp OR	1	4
	Bluegill	4	12
	<b>Bon Tempe Reservoir</b>		
	Largemouth bass	1	1

\*Meal size is assumed to be eight ounces (6 oz. cooked) for a 160-pound adult. Serve smaller meals to children.